AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listing of claims in the application:

LISTING OF CLAIMS:

Claim 1 (Currently amended) A high-efficiency controller of a gas-filled light producing tube, comprising:

a logic integrated circuit controlled and oscillated using pulse width modulation for transforming direct electric current supplied from a power source into output signals in a form of high-frequency sine waves;

a power amplifying circuit formed by a pair of transistors respectively coupled to a pair of outputs of the logic integrated circuit to provide a push-pull configuration; ~~and~~

a transformer electrically connected to a pair of outputs of the power amplifying circuit for supplying current and voltage as needed by a load; and

a plurality of protective circuits coupled between the transformer and logic integrated circuit, at least one of the protective circuits being operable to shut down the logic integrated circuit responsive to an operational condition of the transformer.

Claim 2 (Original) The high-efficiency controller of a gas-filled light producing tube as claimed in claim 1, wherein the load is a gas-filled light producing tube.

Claim 3 (Currently amended) A high-efficiency controller of a gas-filled light producing tube, comprising:

a logic integrated circuit controlled and oscillated using pulse width modulation for transforming direct electric current supplied from a power source into output signals in a form of outputs of high-frequency sine waves;

a power amplifying circuit coupled to an output of the logic integrated circuit;

a transformer electrically connected to an output of the power amplifying circuit for supplying current and voltage as needed by a load; and,

a subsidiary power circuit connected to both the logic integrated circuit controlled and oscillated by the pulse width modulation and the transformer for loop-supplying continuously power to the logic integrated circuit; and

a plurality of protective circuits coupled between the transformer and logic integrated circuit, at least one of the protective circuits being operable to shut down the logic integrated circuit responsive to an operational condition of the transformer.

Claim 4 (Previously presented) The high-efficiency controller of a gas-filled light producing tube as claimed in claim 1, wherein an overload protective circuit is connected to both the logic integrated circuit and the transformer for shutting down the logic integrated circuit responsive to an occurrence of an overload.

Claim 5 (Currently amended) ~~The~~ A high-efficiency controller of a gas-filled light producing tube ~~as claimed in claim 1~~, comprising:

a logic integrated circuit controlled and oscillated using pulse width modulation for transforming direct electric current supplied from a power source into output signals in a form of high-frequency sine waves;

a power amplifying circuit formed by a pair of transistors respectively coupled to a pair of outputs of the logic integrated circuit to provide a push-pull configuration; and

a transformer electrically connected to a pair of outputs of the power amplifying circuit for supplying current and voltage as needed by a load;

wherein an idle disconnection circuit is connected to both the logic integrated circuit and the transformer for shutting down the logic integrated circuit responsive to an occurrence of[[**]] one of a condition of power of the transformer being cut off and a condition of the transformer being in idle motion.

Claim 6 (Previously presented) The high-efficiency controller of a gas-filled light producing tube, comprising:

a logic integrated circuit controlled and oscillated using pulse width modulation for transforming direct electric current supplied from a power source into output signals in a form of outputs of high-frequency sine waves;

a power amplifying circuit coupled to an output of the logic integrated circuit;

a transformer electrically connected to an output of the power amplifying circuit for supplying current and voltage as needed by a load; and,

a grounding protective circuit connected to both the logic integrated circuit and the transformer for shutting down the logic integrated circuit responsive to an occurrence of one of a grounding condition and contact with a human body.

Claim 7 (Cancelled).